STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING
1588 West North Temple
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(801) 533-5771

M E M O R A N D U M
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TO: The Board of Oil, Gas, and Mining

FROM: Mary Ann Wright, Reclamation Biologist

SUBJECT: Geokinetics, Inc.
Utah Experimental Site #1
ACT/047/002
Uintah County, Utah

DATE: January 24, 1979

The Division of Oil, Gas, and Mining has reviewed the Mining and Reclamation plan submitted by Geokinetics, Inc. for the Utah Experimental Site #1 and feels the plan meets the requirements of the Utah Mined Land Reclamation Act. The Division seeks the Board's concurrence so that tentative approval may be issued.

It must be noted here that this operation does not actually involve mining per se. Rather, the operation involves experimental work on an in situ oil shale extraction process. However, since the operation occurs on State land (Oil Shale Lease ML-24276), and involves a significant amount of disturbance, it was felt that the reclamation standards of the Utah Mined Land Reclamation Act should apply to the experimental site.

A second note to the Board concerns the Board Order (Cause No. 161-1) of September 17, 1975, authorizing Geokinetics, Inc. to conduct a pilot project at the site. Additionally, the State Environmental Coordinating

Committee reviewed an Environmental Assessment for the experimental site and passed approval on the operation on July 20, 1977.

The Division also seeks the Board's concurrence with the amount of the reclamation surety ($5,000.00) which has already been posted with the Division of State Lands.

An Executive Summary is enclosed for your review and information.

MAW/te

Attachment: Executive Summary

E X E C U T I V E S U M M A R Y

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GEOKINETICS, INC.

Utah Experimental Site #1
ACT/047/002
Uintah County, Utah

COMMODITY:

The operation involves in situ oil shale retorting and is funded by a Federal Energy Research and Development Administration grant.

LOCATION:

The experimental site is located in Section 2 in Township 14 South, Range 22 East in Uintah County, which is in the southern portion of the Uintah Basin. This location is shown on the attached map.

GEOLOGY AND SOILS:

The rock strata in the area dip northward as part of a large synclinal trough which forms the Uintah Basin. This land at the site is characterized by the outcrop of the Mahogany oil shale zone.

Soils are of the alluvial type with a depth of 0 to 6 inches.

HYDROLOGY:

Surface water at the site is intermittent resulting from rainstorms and snowmelt runoff. Little is known of the groundwater at the site. Both surface and groundwater are presently being monitored as part of the project.

ECOLOGY:

An ecological research program conducted at the site identified four major vegetation types: south-facing pinyon-juniper woodlands, north-facing pinyon-juniper woodlands, sagebrush-grass uplands and sagebrush-saltbush lowlands.

STRUCTURES AND FACILITIES:

A temporary camp, an office, lab and weather station consisting of approximately twenty (20) trailers and related temporary structures are present at the site.

Eighteen (18) retort areas exist at the site ranging in size from 800 to 20,000 square feet. As part of the process, these areas are denuded of vegetation and are being revegetated as they cool.

MINING AND RECLAMATION:

During Operations:

1. Retorting will be conducted in a safe and orderly fashion.

2. Monitoring will be conducted to determine the effects of retorts on the quality and distribution of ground and surface water.

3. Revegetation plans will be implemented on retorted areas as they are abandoned.

4. Process and flare gasses will be monitored and analyzed. Results will be utilized in the design of emission equipment.

5. A complete weather station will monitor and record meteorological data. Data will be used for dispersion modeling and inversion patterns in the area.

6. A temporary camp, for employees only, will be maintained at the site. It will comply with all State health requirements.

7. A monitoring program to assess general toxic properties of the retorted material will be conducted to determine potential health hazards for humans.

8. Effluent water from the operation will be contained in a no-discharge, membrane-lined evaporation pond.

After Operations:

1. Extraneous debris, scrap metal and wood, and all buildings and equipment will be removed from the site.

2. Core holes, drill holes and/or excavations will be backfilled or plugged to prevent migration of substances.

3. The entire area affected will be stabilized by establishing a self-sustaining vegetative cover through seeding with a specified and diverse seed mixture.

IMPACTS:

Environmental impacts at the site will be mitigated at the cease of operations by reclamation.

The scope of the project is to develop an economically feasible manner of developing oil shale which would cause the least disturbance to the environment by avoiding the strip mining process.

SURETY:

The Division of State Lands has estimated a reclamation surety of $5,000.00 and received a bond for this amount in 1975.